UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/654,317	09/01/2000	James Nichols	004259.P008	5772

32641 7590 02/24/2006

DIGEO, INC C/O STOEL RIVES LLP
201 SOUTH MAIN STREET, SUITE 1100
ONE UTAH CENTER
SALT LAKE CITY, UT 84111

EXAMINER	
MANNING, JOHN	

ART UNIT	PAPER NUMBER
2614	

DATE MAILED: 02/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/654,317	NICHOLS, JAMES	
	Examiner	Art Unit	
	John Manning	2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-31* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-31* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to the amended claims have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 8, 12-13, 18, 21-22 and 26 are rejected under 35 U.S.C. 102(e) as being anticipated by Ueno (US Pat No 6,185,736).

In regard to claim 1, the reference discloses a method and apparatus for allocating bandwidth based on the properties of a video source. The claimed step of "generating a histogram of bitrate as a function of time for each of a plurality of previously-encoded multimedia programs, each bitrate histogram indicating actual bitrate requirements for every point of time within the associated multimedia program" is met by Figure 11. "Thus, according to the above-explained embodiment, in the case of the communication in which the storage medium is used as a source, the feature that the traffic characteristic is determined at the transmission starting time is utilized. The notification parameter file 19, which time-sequentially shows the characteristic of the transmission rate change corresponding to the durable time of the traffic time, is notified to the network 19 from the server 11. The network 14 executes the bandwidth resource

allocation based on the characteristic of the transmission rate change designated by the notified parameter. Thereby, the transmission, which is adjusted to the characteristic of the source, and the efficient traffic management, and the running of the network can be executed. Regarding the notification parameter, the time sequential characteristic showing the transmission rate generated by the above-mentioned method may be recorded in DVD, and this may be used as the notification parameter" (Col 11, Lines 7-24). The claimed step of "prior to transmitting one of the plurality of media programs to a multimedia node, identifying the previously-generated bitrate histogram for said multimedia program" is met by Figure 12. "A parameter characteristic corresponding to the selected DVD is notified to the network by a U-N (User-Network) signaling section, so that the above mentioned negotiation can be carried out. If the call is admitted, data from DVD is transmitted through a network adapter 118" (Col 11, Lines 50-54). The claimed step of "during transmission of said multimedia program, changing a bandwidth allocation for the multimedia node in anticipation of an actual bitrate spike indicated in the bitrate histogram" is met by Figure 13. "The traffic management section 138 adds the already admitted traffic characteristic and newly notified traffic characteristic to each other. Then, the traffic management section 138 determines whether or not the traffic management section 138 itself can accept the call. The traffic management section 138 negotiates with the exchanger on the path through an N-N signaling section 139. Similar to the explanation of the server, since the traffic is the function of time, the timer 136 controls timing of call admission. After the call is admitted, data of DVD is passed through the system of the circuit elements 131 to 135. In this case, the policing section

132 polices the traffic in the right direction, and the policing section 134 polices the traffic in the left direction. As a result, policing sections 132 and 134 discard notification violation data in accordance with the notified traffic characteristic. Thus, the traffic, which the exchanger itself does not expect, is surely discarded by policing. As a result, the bandwidth resource of the traffic as notified can be ensured as in a contract" (Col 12, Lines 13-31).

In regard to claim 8, the claimed step of "generating a histogram of bitrate as a function of time for each of a plurality of previously-encoded multimedia programs, each bitrate histogram indicating actual bitrate requirements for every point of time within the associated multimedia program" is met by Figure 11 (See Col 11, Lines 7-24). The claimed step of "receiving a request for a one of the plurality of previously-encoded multimedia program from the first multimedia node" is met by Figure 2, Item S22. The claimed step of "allocating a first amount of bandwidth to supply said multimedia program to said multimedia node" is met by Figure 2, Item S28. "When it is discriminated that the call is acceptable by all exchangers on the path, the call is admitted and the network resource is allocated to the call (step S28)" (Col 7, Lines 54-57). The claimed step of "dynamically adjusting said first amount of bandwidth based on the previously-generated bitrate template for said multimedia program, wherein said adjusting is done prior to the occurrence of actual changes in bitrate requirements for said multimedia program indicated by the bitrate template" is met Figure 2, Items S24-S28. "In the respective exchangers, the accumulated traffic characteristic, which is relevant to this kind of call already admitted, is stored as time series (already accepted

traffic 20 in FIG. 4). Each exchanger adds a time series of a transmission rate of a newly notified call (slanting line of FIG. 4) to the accumulated traffic characteristic" (Col 7, Lines 40-46; also see Col 12, Lines 13-31).

In regard to claims 12 and 21, Ueno discloses dynamically adjusting said first amount of bandwidth based on a template bitrate data as a function of time indicating changes in bitrate requirement of a multimedia program requested by a second multimedia node (see Col 7, Lines 40-46).

In regard to claims 13 and 22, Ueno discloses the use of a DVD (see Figure 7).

Claims 18 and 26 are met by that discussed above for claims 1 and 8.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 2-7, 9-11, 14-17, 19-20, 23-25 and 27-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ueno in view of Ito et al (US Pat No 6,014,693).

In regard to claims 2 and 19, Ueno fails to explicitly disclose that histograms are stored in a database. The Ito reference teaches the use of a database to store information regarding video data to facilitate the organization of the information. With respect to the Ito reference, when the user inputs a request to view multimedia, the system refers to the video data index 13, to determine the proper bit rate. The "video

index information defines a plurality of settings for the transfer bit rate of video data and indicates which data included in the original video data the video server should transfer to the client when setting the transfer bit rate to one of the plurality of settings. Furthermore, the video data assembler extracts data from the original video data by referring to the video data index information so as to set the transfer bit rate to one of the plurality of settings" (Col 3, Lines 12-20). It is inherent that the server uses identification data to identify the proper "template". Consequently, it would have been obvious to one of ordinary skill in the art to implement the Ueno reference with the use of a database to store information regarding video data to facilitate the organization of the information.

In regard to claims 3-4 and 20, the combined teaching discloses a system for delivering video data with a dynamic bandwidth allocation based on prediction using statistical data (i.e. the histogram) of the video source and buffering so as to ensure the continuity of the data received by the "multimedia node" or client. The combined teaching fails to explicitly disclose the use of serial numbers or checksums for identification of multimedia content as claimed. However, the examiner gives OFFICIAL NOTICE that it is notoriously well known in the art to use serial numbers or checksums for identification so as to allow multimedia content to be identified. Consequently, it would have been clearly obvious to one of ordinary skill in the art to implement the combined teaching with serial numbers identification of multimedia content for so as to allow multimedia content to be identified.

In regard to claim 5, Ueno discloses a remote server (see Figure 13, Item 131).

In regard to claim 6, Ueno fails to explicitly disclose filling an input buffer by a particular amount. The Ito reference teaches the filling of an input buffer by a particular amount so as to prevent services provided by the video server from being interrupted. The Ito system comprises an input buffer at the "node" so as to account for changes in the transfer bit rate such as a "spike". "Reference numeral 117 denotes a network load sensor for detecting a load imposed on a network 103, and 121 denotes a precharge buffer, which is a component of the client 102, for absorbing changes in the transfer bit rate of video data delivered by the video server 101 so as to prevent video data transferring services provided by the video server 101 from being interrupted." (Col 9, Lines 36-43). Consequently, it would have been obvious to one of ordinary skill in the art to implement the Ueno reference with the filling of an input buffer by a particular amount so as to prevent services provided by the video server from being interrupted.

In regard to claim 7, with regard to the Ito reference, when "the transfer bit rate is changed, in step F47, the video data assembler 14, in step F49, extracts data to be transferred at a transfer bit rate which is increased from the current transfer bit rate by one level in accordance with the video data index so as to increase the current bit rate and reassembles the extracted data to create video data. Then, the video data delivery unit 15 delivers the video data" (Col 7, Lines 5-11). And the buffer 121 absorbs the change "in the transfer bit rate of video data delivered by the video server 101 so as to prevent video data transferring services provided by the video server 101 from being interrupted." (Col 9, Lines 39-43).

In regard to claim 9 and 10, Ueno fails to explicitly disclose that histograms are stored in a database. The Ito reference teaches the use of a database to store information regarding video data to facilitate the organization of the information. With respect to the Ito reference, when the user inputs a request to view multimedia, the system refers to the video data index 13, to determine the proper bit rate. The "video index information defines a plurality of settings for the transfer bit rate of video data and indicates which data included in the original video data the video server should transfer to the client when setting the transfer bit rate to one of the plurality of settings. Furthermore, the video data assembler extracts data from the original video data by referring to the video data index information so as to set the transfer bit rate to one of the plurality of settings" (Col 3, Lines 12-20). It is inherent that the server uses identification data to identify the proper "template". Consequently, it would have been obvious to one of ordinary skill in the art to implement the Ueno reference with the use of a database to store information regarding video data to facilitate the organization of the information. It is inherent that the server uses identification data to identify the proper "template".

In regard to claims 11, the combined teaching discloses a system for delivering video data with a dynamic bandwidth allocation based on prediction using statistical data (i.e. the histogram) of the video source and buffering so as to ensure the continuity of the data received by the "multimedia node" or client. The combined teaching fails to explicitly disclose the use of serial numbers or checksums for identification of multimedia content as claimed. However, the examiner gives OFFICIAL NOTICE that it

is notoriously well known in the art to use serial numbers or checksums for identification so as to allow multimedia content to be identified. Consequently, it would have been clearly obvious to one of ordinary skill in the art to implement the combined teaching with serial numbers identification of multimedia content for so as to allow multimedia content to be identified.

In regard to claim 14, Ueno fails to explicitly disclose filling an input buffer by a particular amount. The Ito reference teaches the filling of an input buffer by a particular amount so as to prevent services provided by the video server from being interrupted. The Ito system comprises an input buffer at the "node" so as to account for changes in the transfer bit rate such as a "spike". "Reference numeral 117 denotes a network load sensor for detecting a load imposed on a network 103, and 121 denotes a precharge buffer, which is a component of the client 102, for absorbing changes in the transfer bit rate of video data delivered by the video server 101 so as to prevent video data transferring services provided by the video server 101 from being interrupted." (Col 9, Lines 36-43). Consequently, it would have been obvious to one of ordinary skill in the art to implement the Ueno reference with the filling of an input buffer by a particular amount so as to prevent services provided by the video server from being interrupted.

In regard to claim 15, Ueno fails to explicitly disclose filling an input buffer by a particular amount in anticipation of an increase in bitrate requirements for multimedia content to a second node. The Ito reference teaches the filling an input buffer by a particular amount in anticipation of an increase in bitrate requirements for multimedia content to a second node so as to prevent services provided by the video server from

being interrupted. The Ito system comprises an input buffer at the "node" so as to account for changes in the transfer bit rate such as a "spike". "In FIG. 5, the client 2 outputs a request for transfer of video data to the video server 1. When the video server receives the transfer request from the client, the video server delivers a constant amount of data within a certain time in accordance with the transfer bit rate of video data so as to transfer the video data requested by the client through the video data delivering unit 15, in steps F61 and F62. The video server, in step F63, starts to measure a load L_n imposed on the network at constant intervals T_1 by means of the network load sensor 17 just after transfers of video data are started. Then, the video server compares a measured value L_n of the network load to a reference value L_1, which is the maximum of the network load that cannot be exceeded in order to maintain the current transfer bit rate" (Col 7, Lines 44-57). The bit rate is adjusted in response to the load on the network. Therefor, the bit rate is adjusted when another client or node request video data. Also, there is an input buffer at the "node" so as to account for changes in the transfer bit rate such as a "spike". "Reference numeral 117 denotes a network load sensor for detecting a load imposed on a network 103, and 121 denotes a precharge buffer, which is a component of the client 102, for absorbing changes in the transfer bit rate of video data delivered by the video server 101 so as to prevent video data transferring services provided by the video server 101 from being interrupted." (Col 9, Lines 36-43). Consequently, it would have been obvious to one of ordinary skill in the art to implement the Ueno reference with the filling an input buffer by a particular amount in anticipation of an increase in bitrate requirements for multimedia content to a

second node so as to prevent services provided by the video server from being interrupted.

In regard to claim 16, Ueno fails to explicitly disclose filling an input buffer by a particular amount. The Ito reference teaches the filling of an input buffer by a particular amount so as to prevent services provided by the video server from being interrupted. The Ito system comprises an input buffer at the "node" so as to account for changes in the transfer bit rate such as a "spike". "Reference numeral 117 denotes a network load sensor for detecting a load imposed on a network 103, and 121 denotes a precharge buffer, which is a component of the client 102, for absorbing changes in the transfer bit rate of video data delivered by the video server 101 so as to prevent video data transferring services provided by the video server 101 from being interrupted." (Col 9, Lines 36-43). Consequently, it would have been obvious to one of ordinary skill in the art to implement the Ueno reference with the filling of an input buffer by a particular amount so as to prevent services provided by the video server from being interrupted. The Ito system comprises an input buffer at the "node" so as to account for changes in the transfer bit rate such as a "spike".

In regard to claim 17, the Ito reference discloses the filling an input buffer by a particular amount in anticipation of an increase in bitrate requirements for multimedia content to a second node so as to prevent services provided by the video server from being interrupted. The Ito system comprises an input buffer at the "node" so as to account for changes in the transfer bit rate such as a "spike". "In FIG. 5, the client 2 outputs a request for transfer of video data to the video server 1. When the video

server receives the transfer request from the client, the video server delivers a constant amount of data within a certain time in accordance with the transfer bit rate of video data so as to transfer the video data requested by the client through the video data delivering unit 15, in steps F61 and F62. The video server, in step F63, starts to measure a load L_n imposed on the network at constant intervals T_1 by means of the network load sensor 17 just after transfers of video data are started. Then, the video server compares a measured value L_n of the network load to a reference value L_1, which is the maximum of the network load that cannot be exceeded in order to maintain the current transfer bit rate" (Col 7, Lines 44-57). The bit rate is adjusted in response to the load on the network. Therefor, the bit rate is adjusted when another client or node request video data. Also, there is an input buffer at the "node" so as to account for changes in the transfer bit rate such as a "spike". "Reference numeral 117 denotes a network load sensor for detecting a load imposed on a network 103, and 121 denotes a precharge buffer, which is a component of the client 102, for absorbing changes in the transfer bit rate of video data delivered by the video server 101 so as to prevent video data transferring services provided by the video server 101 from being interrupted." (Col 9, Lines 36-43).

In regard to claim 23 and 25, Ueno fails to explicitly disclose filling an input buffer by a particular amount. The Ito reference teaches the filling of an input buffer by a particular amount so as to prevent services provided by the video server from being interrupted. The Ito system comprises an input buffer at the "node" so as to account for changes in the transfer bit rate such as a "spike". "Reference numeral 117 denotes a

network load sensor for detecting a load imposed on a network 103, and 121 denotes a precharge buffer, which is a component of the client 102, for absorbing changes in the transfer bit rate of video data delivered by the video server 101 so as to prevent video data transferring services provided by the video server 101 from being interrupted." (Col 9, Lines 36-43). Consequently, it would have been obvious to one of ordinary skill in the art to implement the Ueno with the filling of an input buffer by a particular amount so as to prevent services provided by the video server from being interrupted.

In regard to claim 24, the Ueno fails to explicitly disclose filling an input buffer by a particular amount in anticipation of an increase in bitrate requirements for multimedia content to a second node. The Ito reference teaches the filling an input buffer by a particular amount in anticipation of an increase in bitrate requirements for multimedia content to a second node so as to prevent services provided by the video server from being interrupted. The Ito system comprises an input buffer at the "node" so as to account for changes in the transfer bit rate such as a "spike". "In FIG. 5, the client 2 outputs a request for transfer of video data to the video server 1. When the video server receives the transfer request from the client, the video server delivers a constant amount of data within a certain time in accordance with the transfer bit rate of video data so as to transfer the video data requested by the client through the video data delivering unit 15, in steps F61 and F62. The video server, in step F63, starts to measure a load L_n imposed on the network at constant intervals T_1 by means of the network load sensor 17 just after transfers of video data are started. Then, the video server compares a measured value L_n of the network load to a reference value L_1,

which is the maximum of the network load that cannot be exceeded in order to maintain the current transfer bit rate" (Col 7, Lines 44-57). The bit rate is adjusted in response to the load on the network. Therefor, the bit rate is adjusted when another client or node request video data. Also, there is an input buffer at the "node" so as to account for changes in the transfer bit rate such as a "spike". "Reference numeral 117 denotes a network load sensor for detecting a load imposed on a network 103, and 121 denotes a precharge buffer, which is a component of the client 102, for absorbing changes in the transfer bit rate of video data delivered by the video server 101 so as to prevent video data transferring services provided by the video server 101 from being interrupted." (Col 9, Lines 36-43). Consequently, it would have been obvious to one of ordinary skill in the art to implement Ueno with the filling an input buffer by a particular amount in anticipation of an increase in bitrate requirements for multimedia content to a second node so as to prevent services provided by the video server from being interrupted.

In regard to claims 27-28, the claimed step of "generating a histogram of bitrate as a function of time for each of a plurality of previously-encoded multimedia programs, each bitrate histogram indicating actual bitrate requirements for every point of time within the associated multimedia program" is met by Figure 11 (See Col 11, Lines 7-24). The claimed step of "identifying a previously generated bitrate histogram associated with particular multimedia content to be transmitted to a multimedia node" is met by is met by Figure 12 (see Col 11, Lines 50-54). The reference fails to explicitly disclose delaying a start time in anticipation of an actual bitrate spike. The Ito reference teaches the filling of an input buffer by a particular amount or delaying a start time in anticipation

of a future bitrate spike so as to prevent services provided by the video server from being interrupted. The Ito system comprises an input buffer at the "node" so as to account for changes in the transfer bit rate such as a "spike". "Reference numeral 117 denotes a network load sensor for detecting a load imposed on a network 103, and 121 denotes a precharge buffer, which is a component of the client 102, for absorbing changes in the transfer bit rate of video data delivered by the video server 101 so as to prevent video data transferring services provided by the video server 101 from being interrupted." (Col 9, Lines 36-43). Consequently, it would have been obvious to one of ordinary skill in the art to implement the Ueno reference with delaying a start time in anticipation of a future bitrate spike so as to prevent services provided by the video server from being interrupted.

In regard to claim 29, the claimed limitation of "storing a histogram of bitrate as a function of time for each of a plurality of previously-encoded multimedia programs, each bitrate histogram indicating bitrate requirements at every given point of time within the associated multimedia program" is met by Figure 11 (See Col 11, Lines 7-24). The claimed step of "receiving a request for a first multimedia program from a first multimedia node" is met by Figure 2, Item S22. The claimed step of "allocating a particular amount of bandwidth to supply the first multimedia program to the first multimedia node based on the first bitrate histogram" is met by Figure 2, Item S28. "When it is discriminated that the call is acceptable by all exchangers on the path, the call is admitted and the network resource is allocated to the call (step S28)" (Col 7, Lines 54-57). The claimed step of "identifying a first stored bitrate histogram associated

with the first multimedia program" is met by Figure 12. "A parameter characteristic corresponding to the selected DVD is notified to the network by a U-N (User-Network) signaling section, so that the above mentioned negotiation can be carried out. If the call is admitted, data from DVD is transmitted through a network adapter 118" (Col 11, Lines 50-54). The claimed steps of "allocating a particular amount of bandwidth to supply the first multimedia program to the first multimedia node based on the first bitrate histogram" and "identifying a second stored bitrate histogram associated with a second multimedia program to be transmitted to a second multimedia node, the second bitrate histogram indicating an actual future spike in bandwidth requirements for the second multimedia program that will occur in the future during transmission" are met by Figure 2. "In the respective exchangers, the accumulated traffic characteristic, which is relevant to this kind of call already admitted, is stored as time series (already accepted traffic 20 in FIG. 4). Each exchanger adds a time series of a transmission rate of a newly notified call (slanting line of FIG. 4) to the accumulated traffic characteristic" (Col 7, Lines 40-46; also see Col 12, Lines 13-31). The particular amount of bandwidth to supply the first multimedia program to the first multimedia node is included in the accumulated traffic characteristic, where the second stored bitrate histogram associated with a second multimedia program to be transmitted to a second multimedia node is the time series of a transmission rate of a newly notified call. The reference fails to explicitly disclose throttling back the bandwidth allocated to the first multimedia program just prior to encountering the bandwidth spike associated with the second multimedia program at a time sufficient to fill a buffer of the first multimedia node. The Ito reference

teaches the throttling back the bandwidth allocated to the first multimedia program just prior to encountering the bandwidth spike associated with the second multimedia program at a time sufficient to fill a buffer of the first multimedia node so as to prevent services provided by the video server from being interrupted. The Ito system comprises an input buffer at the "node" so as to account for changes in the transfer bit rate such as a "spike". "Reference numeral 117 denotes a network load sensor for detecting a load imposed on a network 103, and 121 denotes a precharge buffer, which is a component of the client 102, for absorbing changes in the transfer bit rate of video data delivered by the video server 101 so as to prevent video data transferring services provided by the video server 101 from being interrupted." (Col 9, Lines 36-43). Consequently, it would have been obvious to one of ordinary skill in the art to implement the Ueno reference with throttling back the bandwidth allocated to the first multimedia program just prior to encountering the bandwidth spike associated with the second multimedia program at a time sufficient to fill a buffer of the first multimedia node so as to prevent services provided by the video server from being interrupted.

In regard to claims 30-31, the claimed step of "generating a histogram of bitrate as a function of time for an entire media program before a transmission thereof to a multimedia, the bitrate histogram indicating bitrate requirements at ever given point of time within the associated media program" is met by Figure 11 (See Col 11, Lines 7-24). The claimed steps "allocating a first amount of network bandwidth for transmitting the media program to the multimedia node, the first amount being a subset of available network bandwidth to the multimedia node" and "identifying, during transmission of the

multimedia program, an actual upcoming bitrate spike within the bitrate histogram for the multimedia program, the actual bitrate spike temporally requiring more than the available network bandwidth for transmission of the multimedia program" are met by Figure 2. "In the respective exchangers, the accumulated traffic characteristic, which is relevant to this kind of call already admitted, is stored as time series (already accepted traffic 20 in FIG. 4). Each exchanger adds a time series of a transmission rate of a newly notified call (slanting line of FIG. 4) to the accumulated traffic characteristic" (Col 7, Lines 40-46; also see Col 12, Lines 13-31). The particular amount of bandwidth to supply the first multimedia program to the first multimedia node is included in the accumulated traffic characteristic, where the second stored bitrate histogram associated with a second multimedia program to be transmitted to a second multimedia node is the time series of a transmission rate of a newly notified call. The reference fails to explicitly disclose temporarily increasing the bandwidth allocation for the multimedia node from the first amount to a second amount in anticipation of the actual bitrate spike indicated in the bitrate histogram, the temporarily increased bandwidth allocation being sufficient to fill a buffer at the multimedia node to avoid a buffer underrun at the multimedia node during the actual bitrate spike. The Ito reference teaches the temporarily increasing the bandwidth allocation for the multimedia node from the first amount to a second amount in anticipation of the actual bitrate spike indicated in the bitrate histogram, the temporarily increased bandwidth allocation being sufficient to fill a buffer at the multimedia node to avoid a buffer underrun at the multimedia node during the actual bitrate spike so as to prevent services provided by the video server from

being interrupted. The Ito system comprises an input buffer at the "node" so as to account for changes in the transfer bit rate such as a "spike". "Reference numeral 117 denotes a network load sensor for detecting a load imposed on a network 103, and 121 denotes a precharge buffer, which is a component of the client 102, for absorbing changes in the transfer bit rate of video data delivered by the video server 101 so as to prevent video data transferring services provided by the video server 101 from being interrupted." (Col 9, Lines 36-43). Consequently, it would have been obvious to one of ordinary skill in the art to implement the Ueno reference with temporarily increasing the bandwidth allocation for the multimedia node from the first amount to a second amount in anticipation of the actual bitrate spike indicated in the bitrate histogram, the temporarily increased bandwidth allocation being sufficient to fill a buffer at the multimedia node to avoid a buffer underrun at the multimedia node during the actual bitrate spike so as to prevent services provided by the video server from being interrupted.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Manning whose telephone number is 571-272-7352. The examiner can normally be reached on M-F: 9:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John W. Miller can be reached on 571-272-7353. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JM
February 17, 2006

JOHN MILLER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600